

Notes - Transformations of Functions

$$a f(b(x-c)) + d$$

Linear: $y = a(b(x-c)) + d$ Ex: $y = -2x + 5$ $a =$ $b =$
 $c =$ $d =$

Absolute value: $y = a|b(x-c)| + d$ Ex: $y = |3x| + 2$ $a =$ $b =$
 $c =$ $d =$

Quadratic: $y = a(b(x-c))^2 + d$ Ex: $y = 5(x-1)^2 + 6$ $a =$ $b =$
 $c =$ $d =$

Square Root: $y = a\sqrt{b(x-c)} + d$ Ex: $y = \frac{1}{2}\sqrt{-x} - 1$ $a =$ $b =$
 $c =$ $d =$

Cubic: $y = a(b(x-c))^3 + d$ Ex: $y = (2(x+3))^3 + 4$ $a =$ $b =$
 $c =$ $d =$

Inverse: $y = \frac{a}{b(x-c)} + d$ Ex: $y = \frac{1}{2(x-3)}$ $a =$ $b =$
 $c =$ $d =$

Exponential: $y = a e^{b(x-c)} + d$ Ex: $y = e^{x-2} - 1$ $a =$ $b =$
 $c =$ $d =$

Logarithmic: $y = a \ln(b(x-c)) + d$ Ex: $y = -2 \ln(x+1)$ $a =$ $b =$ $c =$ $d =$

Sine: $y = a \sin(b(x-c)) + d$ Ex: $y = 4 \sin(\frac{1}{2}x) + 3$ $a =$ $b =$ $c =$ $d =$